

REMARKS

Applicant has amended claims 1, 2, 3, 4, 8 and 14. Applicant respectfully submits that these amendments to the claims are supported by the application as originally filed and do not contain any new matter. Accordingly, the Final Office Action will be discussed in terms of the claims as amended.

The Examiner has rejected the claims 1 through 19 under 35 USC 103 as being obvious over Pieper stating that Pieper discloses:

1. A system and a method for determining a dimension of an anatomical structure using an appropriate set of 2-D slice images obtained by scanning an anatomical structure, the system comprising a means for assembling a set of scanned 2-D slice images into a 3-D data for extracting an anatomical feature from the information contained in 3-D data and further to specify a measurement to be made based on the extracted anatomical feature;

2. Calculating the measurement wherein the anatomical feature is the center line of the anatomical structure;

3. In another embodiment the system comprises a first database which comprises a plurality of 2-D slice images generated by scanning an anatomical structure, the 2-D slice images are stored in a first data format, a second database is provided which comprises a 3-D computer model of the scanned anatomical structure; the 3-D computer model comprises a first software object which is representative of a scanned anatomical feature and which is defined by a 3-D geometry database; a means is also provided for inserting a second software object into the 3-D computer model so as to augment the 3-D computer model; the second software object is defined by a 3-D geometry database and includes a planer surface and a means is further provided for determining the specific 2-D slice image which corresponds to the position of the planer surface of the second software object which has been inserted into the augmented 3-D computer model;

4. The measurement of anatomical feature centerline wherein the system further comprises a cumulative sum table derived from the centerline to calculate and determine a length measurement; and

5. In Figures 11, 12 and 13, 2-D slice images and 3-D images of the same organ and the axial slices are used as a method of obtaining images; and

6. Scanning devices of the sort described above might be used for stenosis in a blood vessel or the build-up of plaque in a blood vessel or a thinning of the aorta wall, but does not teach imaging of the heart; but it would have been obvious to one of ordinary skill in the art at the time the invention was made to have an apparatus in the process taught by Pieper in order to scan and obtain ultrasonic images and further to determine the location and size of the subject under examination based on the cut planes around the axis of any organ of interest including the heart.

In reply to this rejection, Applicant would like to first point out that the distinguishing features of Applicant's invention reside in how to apply axes and planes to a target tissue such as a heart having a plurality of isolated groups in order to extract the optimum cross-section of the tissue (heart). Applicant respectfully submits that these distinguishing features are not disclosed in Pieper as is described below.

In particular, in Applicant's invention the distinguishable features described above include setting a basis axis with respect to a specific isolated group (left ventricle cavity) among a plurality of isolated groups corresponding to a target tissue (heart) and setting a plurality of reference cross-section with respect to the target tissue (heart) with the basis axis being the axis of rotation. Applicant respectfully submits that from these distinguishable features, Applicant's invention can achieve the effect that the optimum cross-section with respect to the target tissue (heart) is finally set.

In contrast to Applicant's invention, Applicant respectfully submits that Pieper fails to specifically disclose or suggest how to apply axes and planes to a targeted tissue (heart) having a plurality of isolated groups. In particular, Applicant respectfully submits that Pieper does not include any description of focusing on a left ventricle cavity in the heart and setting a basic axis with respect to the left ventricle cavity. Moreover, Applicant respectfully submits that Pieper does not show or suggest that one would apply such to the imaging of a heart. Accordingly, Applicant respectfully submits that from the teachings of Pieper one of ordinary skill in the art would not understand to be or determine what the optimum cross-section for a target tissue (heart) having a plurality of isolated groups is or how to apply axes and planes in order to obtain a set of optimum cross-sections.

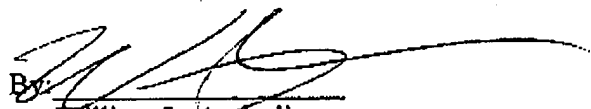
In view of the above, Applicant respectfully submits that the claims 1 through 19 are not obvious over Pieper.

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In view of the above, therefore, it is respectfully requested that this Rule 116 Amendment be entered, favorably considered and the case passed to issue.

Please charge any additional costs incurred by or in order to implement this Amendment or required by any requests for extensions of time to QUINN EMANUEL DEPOSIT ACCOUNT NO. 50-4367.

Respectfully submitted,

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